

# THE DER WEEKLY

[www.eren.doe.gov/der](http://www.eren.doe.gov/der)

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July 13, 2001

## Industry News

### Wall Street Pumps Up on Energy Stocks

A growing number of mutual funds have augmented their holdings with energy stocks. More than two dozen U.S.-stock funds that do not specialize in energy boast energy weightings at least three times the sector's recent 7.5% weighting in the Standard & Poor's 500-stock index. In the past few years many funds loaded up on technology companies only to see performance suffer with the stock market crash. Investors are now hoping to recoup losses with the burgeoning interest in the energy sector. As reported in the [May 4 edition](#) of the DER weekly, energy-related companies have raised over \$11 billion in stock and convertible security offerings.

*The Wall Street Journal*, July 13

### Cogeneration Issues

An article posted on the Energy User News website discusses the issues of developing a cogeneration project. *Making the Most of Available Energy* covers the economics of when cogeneration is feasible by having an acceptable payback period and balancing the electric and thermal load displaced by the system. The article also talks about the various technologies available for cogeneration, the site requirements, and the coordination involved with the local utility.

[energyusernews.com](http://energyusernews.com), June 1

### Minnesota Power Completes CHP Testing

Minnesota Power completed testing on its cogeneration unit at the Potlatch Corporation pulp and paper mill in Cloquet, Minnesota. The new generating unit will be ready to generate up to 23 MW of electricity once the Mid-Continent Area Power Pool approves the test results. After identifying additional steam capacity that could be used to generate new electricity, Potlatch officials began installation work two months ago on the new turbine. A combination of wood waste and natural gas are used to fuel the turbine.

[Duluth News-Tribune](#), June 29; [Minnesota Power](#) Press Release, June 28



### SMUD Orders PV Roofing Laminates

Bekaert ECD Solar Systems LLC (a joint venture between [United Solar Systems Corporation](#), a developer of thin-film

Find out how distributed energy is helping to provide relief to summer energy demands! Read Power Crunch—The DER Weekly feature on page 2.

amorphous photovoltaics, and Bekaert, a manufacturer of steel wire products and advanced materials) has received an order from the Sacramento Municipal Utilities District (SMUD) for 100 kW of its UNI-SOLAR building integrated photovoltaic roofing products. The roofing laminate will be shipped by the end of August and bonded to metal roofs and parking shade structures throughout the Sacramento area. According to SMUD Principal Electrical Engineer Dave Collier, the agency finds “many opportunities for the lightweight, aesthetically pleasing and easy to install UNI-SOLAR products.”

[Bekaert ECD Press Release](#), July 9

### Beacon Power Successful in Flywheel Testing

Beacon Power Corporation, a developer of advanced flywheel technology, announced that it has successfully completed continuous performance tests of its 6-kWh Flywheel Energy Storage System at the rated operating speed of 22,500 rpm. According to Beacon, the testing also demonstrated that the flywheel set a new record in the industry, proving that it can provide continuous backup power for up to 30 hours. The technology provides up to 2 kWh of continuous electrical power and can support user operations for more than one day. The performance testing is ahead of its original schedule, and the company expects full qualification of the 6-kWh units during the second half of 2001, with beta units available in the field during the fourth quarter of 2001.

[Beacon Power Corporation](#) Press Release, July 12



### New England ISO Load Management Meters

The application service provider for the New England Independent Service Operator (ISO), [Retx Inc.](#), has selected Power Measurement's Internet-enabled ION® smart power meters for load response management. The ION® metering product is standardized with MeterMail® email messaging and offers an internet-based solution with near real-time energy measurements. End users can exercise choice and control in response to electricity market prices through the existing

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### Distributed Energy Provides Relief During Summer Energy Demands

Energy and retail companies are gearing up for summer heat waves – GE Energy Rentals and Home Depot are just two businesses that are filling new market niches with innovative distributed energy resources and energy efficiency products and services.

GE Energy Rentals, a GE Power Systems business, is sending a fleet of traveling power plants to the Western United States this summer to help the region meet its increasing energy requirements. The “Power Plants on Wheels” will provide approximately 440 MW of power using 22 of its trailer-mounted TM2500 gas turbine generator sets (each system is capable of producing 22.8 MW). The power plants will be used in Arizona, Utah, and Washington to help various areas meet their local summer peak demands.



According to Caroline Reda, president and general manager for GE Energy Rentals, a single TM2500 system can be assembled and ready for field testing within three days of arrival at a customer site with the necessary infrastructure in place.



The TM2500 consists of a series of trailers that house the turbine-generator, an inlet filter, an exhaust system and auxiliary equipment. A fully assembled system covers approximately 7,000 square feet, and with water injection can achieve NO<sub>x</sub> levels as low as 42 ppm on liquid fuel and 25 ppm on natural gas.

Home Depot has announced that generator sales in its California stores are up more than 100 percent from last year. Company spokesman John Smiley stated in a company press release that “people are clearly arming themselves against the prospect of rolling blackouts this summer” and that “sales of generator installations are up sixfold.” Due to the high volume of home generator and energy efficiency products such as insulated windows and light-reducing window films, the company is launching a new consumer education campaign in its stores. Conservation products will be marked with an E+ logo, identifying for customers which products will help them consume less energy.



Sources: [GE Power](#) Press Release and Web Site, [Home Depot](#) Press Release and Web Site

infrastructure of the Internet. The email messaging also allows utilities to verify customer curtailment by automatically sending load profile reports from customer sites to utilities. [Power Measurement](#) Press Release, July 9

#### So. California Gas CHP and DER Activities

Southern California Gas Company unveiled plans to construct a new 75 kW combined heat and power plant at its Pico Rivera facility on June 28. The Central Energy Plant will use a gas-fired Honeywell microturbine and a super-efficient Broad Air Conditioning 330-ton gas absorption chiller that will provide hot water for space heating and chilled water for cooling. The plant will save the company \$250,000 per year in energy costs and is expected to be operational by October 2001. The system will receive co-funding from DOE's energy efficiency program.

On July 9, Southern California Gas launched the Self Generation Incentive Program that will award monetary incentives to customers who install onsite power-generation systems. The \$13.6 million-a-year rebate program is aimed at businesses and large residential complexes and includes rewards for installing microturbines, small gas turbines, non-diesel internal combustion engines, photovoltaics, wind turbines, and fuel cells. These systems must be interconnected with the utility grid in order to qualify for the program. California State Assembly Bill 970 included direction for the California Public Utilities Commission and the state's utilities to implement this program.

[Southern California Gas Company](#) Press Releases, June 28 and July 9; [EREN Network News](#), July 11

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## Capstone Awarded \$3M

On July 12, the Department of Energy announced a \$3 million award to Capstone Turbine Corp. The award was for the research, development and testing of packaged cooling, heating and power systems for buildings. The goal of the project is to focus on innovative integration of power generation and thermally activated technologies. The exhaust heat from Capstone MicroTurbines has been used to supplement boilers, maintain proper greenhouse temperatures, and to heat water or air. The hot, dry exhaust of the Capstone units has also been used to drive thermally activated equipment such as absorption chillers, producing space cooling while reducing demand on the electrical system. This DOE award will fund further integration and optimization of these technologies with the microturbine, with the goal of making them available to a wider array of economic applications.



Capstone-powered CHP unit.

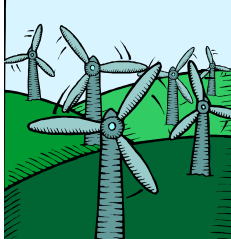
[Capstone Turbine Corporation](#)

Press Release, July 12

## Policy News

### Home and Farm Wind Energy Systems Bill

On June 26 Congressman J.C. Watts (R-OK) introduced the Home and Farm Wind Energy Systems Act of 2001 (H.R. 2322) that would provide a 30 percent investment tax credit for residential wind units. According to *Electricity Daily*, Congressman Watts hopes that the incentive will boost sales of wind turbines, "helping manufacturers to increase their volume and lower costs."



*Electricity Daily*, July 12;

[www.thomas.loc.gov](http://www.thomas.loc.gov)

### DER and Demand Management Legislation

Congressman Jay Inslee (D-WA) introduced the Clean Energy Incentives Act (H.R. 2392) on June 28, which he drafted with Congressmen Christopher Shays (R-CT), Mark Udall (D-CO), and Zach Wamp (R-TN). The last section of the bill includes provisions for distributed energy resources and demand management, including tax credits for distributed generation on residential and business properties, energy management systems using residential real time metering systems, and flywheel property.

*Environment and Energy Daily*, July 12; [www.thomas.loc.gov](http://www.thomas.loc.gov)

## By the Numbers

19	percent increase annually of installed wind turbines over the next ten years (40 percent growth)
28 MW	average annual percent increase of worldwide of installed wind generation over the past five years
60	percent of global wind power market driven by Germany, Spain and Denmark
15	percent of global wind power market driven by North America

Source: [Reuters News Service](#), July 10

## DOE News

### Congratulations and Correction

The Fuel Cell Summit newsletter won the APEX (Awards for Publication Excellence) competition (see [www.apexawards.com](http://www.apexawards.com) for more info) in the "New Newsletters" category. The newsletter is published by the Department of Energy's Pacific Northwest National Laboratory for the fuel cell industry to foster development and adoption of codes and standards that put new technologies to work. The newsletters can be found at [www.pnl.gov/fuelcells/Newsletter.htm](http://www.pnl.gov/fuelcells/Newsletter.htm).

The July 6 issue of the DER Weekly incorrectly stated the winners for the R&D 100 award on environmental barrier coatings. The complete list of winners includes the team of NASA, Solar Turbines Inc., United Technologies Research Center, and General Electric.

### Business Week Interviews Assistant Secretary

On July 13, a reporter from Business Week magazine interviewed David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy, on DER. A feature is being written about alternative energy, and Mr. Garman's remarks will be integrated in the story, which will be published in the coming weeks. Mr. Garman fielded questions about the status of DER technologies including fuel cells, microturbines, wind, solar, combined heat and power, and energy storage. Also discussed was the Department of Energy's involvement with these technologies including their activities and goals. The Assistant Secretary also talked about how the office was supporting the National Energy Policy and the overall health of the electric system.

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## Kickoff Meeting for Inverter Development

Airak, Inc., of Manassas, Virginia, has received a FY01 Small Business Innovative Research (SBIR) award for initial development of an optically isolated ETO (emitter turnoff thyristor) based inverter building block for DER applications. The company has been developing power electronics systems using optical transceivers and multi-mode fiber optics as primary means for sensing and controlling current and voltage. This allows the low potential input and control system to be completely isolated from the high power output. At this kickoff meeting, which will be held on July 17 at Department of

Energy's headquarters in Washington, DC, Airak will report on work, performed under a \$500K grant with DOE (Solar), and outline their plans for the SBIR grant. For the SBIR work, Airak is teaming with Virginia Polytechnic, whose research on a new ETO inverter has been supported by DOE and TVA. The aim of Phase 1 of the project is the development of a prototype for a megawatt range inverter bridge. Since power electronics represent approximately one third the price of most DER systems, any improvement in cost, reliability, and size can contribute significantly to the success of such systems.

## Calendar of Events

### JULY 2001

16-19	2001 National Workshop on State Building Energy Codes	Burlington, VT	<a href="http://www.eren.doe.gov/buildings/codes_standards/buildings/2001natl_workshop.html">www.eren.doe.gov/buildings/codes_standards/buildings/2001natl_workshop.html</a>
24-27	ACEEE Summer Study	Tarrytown, NY	<a href="http://www.aceee.org">www.aceee.org</a> ; Rebecca Lunetta; 302-292-3966
30 - Aug. 1	Green Power Conference	Portland, OR	Tina Kaarsberg, <a href="mailto:tina.kaarsberg@ee.doe.gov">tina.kaarsberg@ee.doe.gov</a> ; <a href="mailto:megan_maguire@nrel.gov">megan_maguire@nrel.gov</a>

### AUGUST 2001

7-8	Natural Gas/Renewable Energy Hybrids Workshop	Morgantown, WV	<a href="mailto:joan.barbish@netl.gov">joan.barbish@netl.gov</a>
11-15	NCSL Annual Meeting and Exhibition	San Antonio, TX	<a href="http://www.ncsl.org">www.ncsl.org</a>
21-22	Natural Gas/Renewable Energy Hybrids Workshop	Golden, CO	<a href="mailto:barbara_ferris@nrel.gov">barbara_ferris@nrel.gov</a>
21-24	International Energy Program Evaluation Conference	Salt Lake City, UT	608-835-6880; <a href="mailto:marymcc@tds.net">marymcc@tds.net</a>
29-30	Integrated Energy Efficiency Conference and Facilities Management and Maintenance Expo	Cleveland, OH	<a href="http://www.aeecenter.org">www.aeecenter.org</a>
29-Sep. 3	IEEC Integrated Energy Efficiency Congress	Cleveland, OH	Sponsored in part by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>

# Calendar of Events

## SEPTEMBER 2001

9-12	MicroGeneration to PowerParks: Supply options and regulatory challenges for RE and DG techs.	Troy, MI	Great Lakes Renewable Energy Assn. <a href="http://www.glrea.org">www.glrea.org</a>
9-14	6th International Conference on Carbon Dioxide Utilization	Breckenridge, CO	Barbara Ferris, 303-275-3781; <a href="http://www.nrel.gov/iccdubi/">www.nrel.gov/iccdubi/</a>
10-11	Energy Trading in the New Economy	New Orleans, LA	<a href="http://www.eyeforeenergy.com/eeo2">www.eyeforeenergy.com/eeo2</a>
11-13	7th Grove Fuel Cell Symposium	London, UK	<a href="http://www.grovetfuelcell.com">www.grovetfuelcell.com</a>
16-19	NASEO Annual Meeting	Portland, ME	<a href="http://www.naseo.org/events/annual/default.htm">www.naseo.org/events/annual/default.htm</a>
17-21	Fifth Biomass Conference of the Americas	Orlando, FL	<a href="http://www.fsec.ucf.edu/bioam">www.fsec.ucf.edu/bioam</a> ; dee_scheaffer@nrel.gov
24-26	Powering the Future—New Strategies and Solutions for Deploying Distributed Power in the Marketplace	Chicago, IL	<a href="http://www.intertechusa.com">www.intertechusa.com</a>
30 – Oct. 5	UPEX'01: The Photovoltaic Experience Conference & Exhibition	Sacramento, CA	Jjudd@ttcorp.com; hosted by Sacramento Municipal Utility District; includes distributed energy technologies workshop

## OCTOBER 2001

2-3	Midwest Electrical Conference and Expo	Indianapolis, IN	George Howell 800-676-2136, <a href="http://www.electricleagueindiana.org/expo2001/index.htm">www.electricleagueindiana.org/expo2001/index.htm</a>
14-17	National Center for Photovoltaics Program Review	Lakewood, CO	barbara_ferris@nrel.gov, 303-275-3781
24-26	World Energy Engineering Congress	Atlanta, GA	<a href="http://www.agcc.org">www.agcc.org</a> (includes CHP Expo <a href="http://www.aeecenter.org">www.aeecenter.org</a> )
24-27	Excellence in Building 2001	Orlando, FL	<a href="http://www.eeba.org/conference">www.eeba.org/conference</a>

## NOVEMBER 2001

1-4	World Congress for a Hydrogen Economy	Denver, CO	<a href="http://www.hydrogennow.org">www.hydrogennow.org</a>
11-14	113th NARUC Annual Convention	Philadelphia, PA	<a href="http://www.naruc.org">www.naruc.org</a>
12-14	Fuel Cells for Stationary, Automotive and Portable Apps.	Fort Lauderdale, FL	Florida Educational Seminars, (561) 367-0193